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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/566,210

Applicant(s)

DIAS ET AL.

Examiner

ABIGAIL FISHER

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-44 is/are pending in the application.
- 4a) Of the above claim(s) 38-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date 5/2/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Receipt of Response to Election/Restriction filed on July 24 2009 is acknowledged. Claims 1-20 were/stand cancelled. Claims 21-44 are pending.

Election/Restrictions

Applicant's election with traverse of Invention II in the reply filed on July 24 2009 is acknowledged. The traversal is on the ground(s) that the reference cited by the examiner Guffogg et al. as disclosing the claimed biliquid therefore the biliquid foam can not be a "special technical feature" does not disclose the biliquid foam as defined in claim 21. This is not found persuasive because while a single example does not contain the required components of the biliquid, the only difference between example 2 and the claimed invention is the type of oil utilized in the oil phase. The oil phase of examples 1, 7, 8, 9 and 10 all possess the same claimed oil phase. Therefore, substitution of the oil phase of these examples for the oil phase exemplified in example 2 is the same biliquid foam as instantly claimed. Since there are finite number of oils taught for the non-polar phase of the biliquid foam, one of ordinary skill in the art would have been motivated to substitute ever one for the oils phase taught in example 2 with a reasonable expectation of success.

The requirement is still deemed proper and is therefore made FINAL.

Upon further consideration, the examiner has decided to rejoin Invention I.

Claims 21-44 are pending in the application. Claims 38-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected

invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 24 2009. Accordingly, claims **21-37** are being examined on the merits herein.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract exceeds the 150 word count. Correction is required. See MPEP § 608.01(b).

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d) and MPEP § 608.01(o). Correction of the following is required: claim 43 recites that the stable dispersion is an anti-cellulite cream or an aftershave lotion. The specification as filed does not support the biliquid foam comprising lanolate, myristate, palmitate or octyl palmitate (claim 27). The specification as filed does not support the non-polar liquid comprising a glyceride, a

lanoline oil, a natural oil, or an oleyl alcohol or mixtures thereof (claims 25 and 31). The instant specification does not support the siloxane comprises cyclomethicone, dimethicone copolyol, octamethylpentasiloxane or mixtures thereof (claim 26 and 32). The instant specification does not support the emollient ester is linolate, myristate, palmitate or octyl palmitate or mixtures thereof claim 27 and 33). The instant specification does not support the polar liquid is aqueous and comprises from 70% of the claimed alcohols (claim 30). The instant specification does not support that the aqueous gel constitutes 50% of the stable dispersion (claim 35).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification discloses chemicals, such as mineral oil, dimethicone,

cyclomethicone, which meet the written description and enablement provisions of 35 USC 112, first paragraph. However, claim(s) 21-37 is(are) directed to a biliquid foam comprising a nonpolar liquid other than fuel. The instant specification does not define the term fuel.

Specific non-polar fluids claimed include mineral oil, natural oil, fatty acids such as myristate, palmitate, glyceride, isoeicosane, isooctahexacontane.

Merriam-Webster Dictionary defines fuel as a material used to produce heat or power by burning.

Nakajima et al. (EP 0960930) teaches that mineral oil is a fuel (paragraph 0011).

Knothe (Inform 2001) is directed to the historical perspectives on vegetable oil based diesel fuels. Vegetable oil esters are known as biodiesel. Transesterification is the most common method and leads to monoalkyl esters of vegetable oils and fats, now called biodiesel when used for fuel purposes (page 1106, left column, last paragraph). It is the fatty acids are the fuel (page 1106, right column, third paragraph).

Ahern et al. (US Patent No. 6235067) is directed to combustion of nanopartitioned fuel. The fuel comprises solvents and surfactants. The surfactants are a variety of fatty acids, fatty acid salts, and glycerol esters.

Because specifically claimed nonpolar oils (mineral oil, fatty acid esters and glycerides) are recognized in the art as fuels, the specification provides insufficient written description to support the genus encompassed by the claim of fuels which are excluded as non-polar oils. **Note: MPEP 2163.**

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, (Fed. Cir. 1991), makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the

filing date sought, he or she was in possession of *the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.)

Univ. of Rochester v. G.D. Searle, 69 USPQ2d 1886, 1892 (CAFC 2004), further supports this by stating that:

The appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy that requirement. A description of an anti-inflammatory steroid, i.e., a steroid (a generic structural term) described even in terms of its functioning of lessening inflammation of tissues fails to distinguish any steroid from others having the same activity or function. A description of what a material does, rather than of what it is, usually does not suffice.... The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described. (Emphasis added).

Finally, University of California v. Eli Lilly and Co., 43 USPQ2d 1398, 1404, 1405 (Fed. Cir. 1997) held that:

...To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention." *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997); *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989) (" [T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed."). Thus, an applicant complies with the written description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." *Lockwood*, 107 F.3d at 1572, 41 USPQ2d at 1966.

Furthermore, to the extent that a functional description can meet the requirement for an adequate written description, it can do so only in accordance with PTO guidelines stating that the requirement can be met by disclosing "sufficiently detailed, relevant identifying characteristics," including "functional characteristics when coupled with a known or disclosed correlation between function and structure." Univ. of Rochester v. G.D. Searle, 68 USPQ2d 1424, 1432 (DC WNY 2003).

Since the specification provides no definition of the term fuel and specific non-polar oils claimed encompass chemicals which are recognized in the art as fuel, the specification does not allow one of ordinary skill in the art to visualize or recognize the identity of fuels which are excluded from the claims. Therefore, the claim(s) do not meet the written description provision of 35 USC § 112, first paragraph.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 as currently written is vague and indefinite. The claim recites that the biliquid foam comprises a nonpolar liquid other than a fuel. The specification provides no definition of what the term fuel means. Specific non-polar fluids claimed include mineral oil, natural oil, fatty acids such as myristate, palmitate, glyceride, isoeicosane, isooctahexacontane. Merriam-Webster Dictionary defines fuel as a material used to produce heat or power by burning. Nakajima et al. (EP 0960930) teaches that mineral oil is a fuel (paragraph 0011). Knothe is directed to the historical perspectives on vegetable oil based diesel fuels. Vegetable oil esters are known as biodiesel. Transesterification is the most common method and leads to monoalkyl esters of vegetable oils and fats, now called biodiesel when used for fuel purposes (page 1106, left column, last paragraph). It is the fatty acids are the fuel (page 1106, right column,

third paragraph). Ahern et al. (US Patent No. 6235067) is directed to combustion of nanopartitioned fuel. The fuel comprises solvents and surfactants. The surfactants are a variety of fatty acids, fatty acid salts, and glycerol esters. Therefore, the claim is indefinite as it is unclear what nonpolar oils are excluded from the claimed biliquid foam as specifically claimed nonpolar oils are known in the art as fuels.

Claim 34 as currently written is vague and indefinite. Claim 34 states in line 1 "a stable dispersion having a contact of C₁-C₄ alcohol...". It is unclear what is meant by the term "contact". The examiner believes this may be a typo as the language found in the specification is "content" (abstract). However, if not it is unclear what is meant by contact or where the alcohol is contacting.

Claims 34 and 35 as currently written is vague and indefinite. It is unclear what at least 65% by weight is referring to. Is it weight of the total composition? The claim as written indicates that there are three components of the stable dispersion: alcohol (or glycol or mixture thereof), biliquid foam and aqueous gel. If the alcohol (or glycol) is required to be present in at least 65%, and then the most the gel and biliquid foam can be present in is 35%. However, claim 35 requires the aqueous is present in a lower limit of 50%. There is no requirement that the aqueous gel possess alcohol. Therefore, it is not possible for the gel to be present in an amount of 50%. Because of this, it is unclear if the at least 65% by weight refers to a separate alcohol (or glycol) or if the 65% can come from the biliquid foam as well as the gel.

Claims 22-33 and 36-37 are included in the rejection as they depend on a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21-33 are rejected under 35 U.S.C. 103(a) as being obvious over Guffogg et al. (WO 03/064024, cited in the Office action mailed on 6/30/09).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Applicant Claims

The instant application claims a biliquid foam comprising from 10% to 98% by weight of a non polar liquid other than a fuel and from 2 to 88% by weight of a continuous phase polar liquid comprising a C1-C4 alcohol, a liquid polyethylene glycol, ethylene glycol or propylene glycol, or mixtures thereof, in an amount of at least 65% by weight, relative to the weight of the continuous phase, wherein the biliquid foam is stabilized with an amount of from 0.05% to 2% by weight based on the total formulation of a surfactant which is selected from castor oil/poly (alkylene glycol) adducts containing

from 20 to 50 alkoxy groups, a C8-C24 fatty acid or hydrogenated castor oil/poly(alkylene glycol) adducts containing from 20 to 60 alkoxy groups, or mixtures thereof.

**Determination of the Scope and Content of the Prior Art
(MPEP §2141.01)**

Guffogg et al. is directed to biliquid foam composition. The biliquid foam comprises a non-polar phase, polar phase and surfactant. Examples of liquids include cyclomethicone, dimethicone, phenyl trimethicone, dimethiconol, emollient esters such as isopropyl isostearate, lanolate, myristate or palmitate or octyl palmitate, a glyceride, a triglyceride, a lanolin oil, mineral oil or natural oil, oleyl alcohol or petroleum derivative such as diesel, gasoline or kerosene (page 6, lines 3-15). The polar liquid is preferably water. The polar liquid may alternatively comprise water in admixture with another polar liquid, for example C₁ to C₃ alcohol, a C₄ alcohol containing at least two hydroxy groups or ethylene glycol or mixtures thereof (column 6, lines 16-25). Example 2 is directed to a biliquid foam wherein the non-polar phase comprises 80% diesel fuel and the polar phase comprises 13.3% ethanol (67% of the aqueous phase), water in 5.7% and croduret 50 (a hydrogenated castor oil/polyethylene glycol adduct wherein 50 refers to the number of ethylene oxide groups) in 1%. The oil phase of example 1 is mineral oil. The polar phase of example 4 comprises methanol water (96/4 mixtures) in 19% and croduret 50 in 1%. Other surfactant exemplified includes Etocas 25. Etocas 25 is a castor oil/polyethylene glycol adduct wherein 25 refers to the number of ethylene oxide in the polyethylene oxide chain (page 24). The surfactant is taught as generally being

included in either the polar phase or non-polar phase in an amount from 0.01 to 3% by weight based on the total weight of the formulation (page 7, lines 14-18).

**Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)**

While Guffogg et al. teach various different oils can make up the non-polar phase, Guffogg et al. do not exemplify a biliquid foam with a non-polar phase comprising oils such as mineral oil, siloxane, or emollient ester in combination with the aqueous phase of examples 2 and 4.

While Guffogg et al. exemplify the surfactant Etocas 25, Guffogg et al. do not exemplify Etocas 25 with an aqueous of example 2 or 4.

***Finding of Prima Facie Obviousness Rationale and Motivation*
(MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize the other specifically taught and exemplified non-polar oils with examples 2 and 4 in Guffogg et al. One of ordinary skill in the art would have been motivated to replace the non-polar oil of examples 2 and 4 with other specifically taught oils such as dimethicone, mineral oil, or emollient esters as they are taught as functional equivalents by Guffogg et al. The prior art teaches biliquid foams that comprise non-polar phase, a polar phase and surfactant and that the non-polar oil can be siloxane, mineral oil, emollient esters or petroleum derivatives. Therefore, all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions and the combination would have yielded predictable results to one of ordinary skill in the

art at the time of the invention. **Note: MPEP 2141 [R-6] *KSR International CO. v. Teleflex Inc.* 82 USPQ 2d 1385 (Supreme Court 2007).**

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize either croduret 50 or etocas 25 as the surfactant. One of ordinary skill in the art would have been motivated utilize either of these two surfactants as they are two specifically exemplified by Guffogg et al. It would have been obvious to one of ordinary skill in the art to try the specifically taught surfactants as a person with ordinary skill has good reason to pursue known options within his or her technical grasp. **Note: MPEP 2141 [R-6] *KSR International CO. v. Teleflex Inc.* 82 USPQ 2d 1385 (Supreme Court 2007).**

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claims 21-25 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sebba (US Patent No. 4486333) in view of Flick (Emulsifying Agents-An Industrial Guide, 1990).

Applicant Claims

The instant application claims a biliquid foam comprising from 10% to 98% by weight of a non polar liquid other than a fuel and from 2 to 88% by weight of a

continuous phase polar liquid comprising a C1-C4 alcohol, a liquid polyethylene glycol, ethylene glycol or propylene glycol, or mixtures thereof, in an amount of at least 65% by weight, relative to the weight of the continuous phase, wherein the biliquid foam is stabilized with an amount of from 0.05% to 2% by weight based on the total formulation of a surfactant which is selected from castor oil/poly (alkylene glycol) adducts containing from 20 to 50 alkoxy groups, a C8-C24 fatty acid or hydrogenated castor oil/poly(alkylene glycol) adducts containing from 20 to 60 alkoxy groups, or mixtures thereof.

**Determination of the Scope and Content of the Prior Art
(MPEP §2141.01)**

Sebba is directed to the preparation of biliquid foam compositions. The biliquid foam comprises small globules of a non-polar liquid such as an oil are encapsulated in a surfactant stabilized film of a hydrogen bonded liquid such as water separated from one another by a further thin lamella of the hydrogen bonded liquid (column 1, lines 5-12). The hydrogen bonded liquid is usually water but any liquid which contains hydrogen bonding is suitable such as alcohols and glycols. Mixtures of such liquids can be also used, for example, a mixture of about 96% by volume alcohol and about 4% by volume water (column 4, lines 20-25). Examples of surfactants include anionic, cationic or non-ionic surfactants such as polyethylene oxide derived surfactants, alkali metal sulphonates. In general it has been found that any water soluble surfactant that would produce a good foam will produce a stable polyaphron (column 4, lines 33-40). The non polar liquid is generally used in a total amount of about 60 to about 98% by volume, With the hydrogen bonded liquid constituting the balance. Examples of suitable non-

polar liquids are animal and vegetable oils, petroleum derivatives, paraffins and liquid halogenated hydrocarbons (column 4, lines 41-49). When a surfactant is required in the non-polar liquid to render the latter spreadable, it will generally be utilized in amount of about 0.1 to about 5% by weight, preferably about 1% by weight of the non-polar liquid. Examples of these suitable surfactants include non-ionic surfactants such as oil soluble polyethylene glycol ethers and fatty acids (column 4, lines 62-68).

**Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)**

While Sebba teach that the non-polar oil can be a animal or vegetable oil and that the hydrogen bonded liquid can a mixture of alcohol and water, Sebba do not exemplify a biliquid foam with these polar and non-polar phases. While Sebba teach that the surfactant can be a fatty acid and polyethyleneglycol ethers, Sebba do not teach that the surfactant is a castor oil/polyalkylene glycol adduct. However, this deficiency is cured by Flick.

Flick is directed to emulsifiers. It is taught that the surfactol series of nonionic outsiders are ethoxylated castor oils with varying amounts of ethylene oxide added to the hydroxy bearing fatty aid chain. They vary form self-emulsifiable to completely water soluble. They offer many benefits such as low odor, excellent stability over broad pH range and lubricity. Examples include Peg-40 Castor Oil, with 40 ethylene oxide units (page 61).

**Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Sebba and Flick and utilize ethoxylated castor oils as the surfactant. One of ordinary skill in the art would have been motivated to utilize these surfactants as Sebba teach that the surfactant can be non-ionic ethoxylated ethers and Flick teach that ethoxylated castor oils are non-ionic surfactants with many benefits. Therefore, one of ordinary skill in the art would have been motivated to utilize the surfactol surfactants for the added benefit of excellent stability and lubricity as taught by Flick.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Sebba and Flick and utilize animal or vegetable oils as the non-polar phase and an alcohol water mixture as the polar phase. The prior art teaches that the non-polar phase can comprise vegetable or animal oils and that the polar phase can be an alcohol water mixture. Therefore, all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. **Note: MPEP 2141 [R-6] KSR *International CO. v. Teleflex Inc.* 82 USPQ 2d 1385 (Supreme Court 2007).**

Regarding the claimed amount of surfactant, Sebba teaches an amount that overlaps that instantly claimed. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. **See MPEP 2144.05 [R-5].** Furthermore, 1% surfactant is taught as preferable.

Regarding the claimed amount of the non-polar and polar phase, Sebba teaches that the non-polar liquid is from about 60 to about 98% with the remaining the polar phase. Therefore, Sebba teaches amounts that overlap those instantly claimed. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. **See MPEP 2144.05 [R-5].**

Regarding the claimed number of ethoxy groups, Flick teaches a PEG-40 castor oil wherein 40 ethoxy groups anticipate the claimed ethoxy groups.

Regarding claims 25 and 31, Sebba teaches animal and vegetable oils which read on natural oil.

Regarding the claimed amount of alcohol, a particular mixture taught is 96% alcohol and 4% water. This amount reads on the instantly claimed polar liquid.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guffogg et al. in view of Wheeler (US Patent No. 6165479, cited on PTO Form 144) and Curry et al. (US Patent No. 4001392).

Applicant Claims

The instant application claims a stable dispersion having a contact of C1-C4 alcohol, a liquid polyethylene glycol, ethylene glycol or propylene glycol, or mixtures

thereof, of at least 65% by weight, which dispersion comprises from 1 to 80% by weight of a biliquid foam as indicated above, and from 99 to 20% by weight of an aqueous gel.

**Determination of the Scope and Content of the Prior Art
(MPEP §2141.01)**

The teachings of Guffogg et al. are set forth above. Guffogg et al. teach the formation of a biliquid foam. The foam comprises a polar phase, nonpolar phase and surfactant. Specific polar phases comprise water and alcohols or glycols. Non-polar phases include liquids such as cyclomethicone, dimethicone, phenyl trimethicone, dimethiconol, emollient esters such as isopropyl isostearate, lanolate, myristate or palmitate or octyl palmitate, a glyceride, a triglyceride, a lanolin oil, mineral oil or natural oil, oleyl alcohol or petroleum derivative such as diesel, gasoline or kerosene. Example 2 is directed to a biliquid foam wherein the non-polar phase comprises 80% diesel fuel and the polar phase comprises 13.3% ethanol (67% of the aqueous phase), water in 5.7% and croduret 50 (a hydrogenated castor oil/polyethylene glycol adduct wherein 50 refers to the number of ethylene oxide groups) in 1%. The oil phase of example 1 is mineral oil. The polar phase of example 4 comprises methanol water (96/4 mixtures) in 19% and croduret 50 in 1%. Other surfactant exemplified includes Etocas 25. Etocas 25 is a castor oil/polyethylene glycol adduct wherein 25 refers to the number of ethylene oxide in the polyethylene oxide chain. The surfactant is taught as generally being included in either the polar phase or non-polar phase in an amount from 0.01 to 3% by weight based on the total weight of the formulation.

**Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)**

Guffogg et al. does not teach adding the biliquid foam to an aqueous gel. However, this deficiency is cured by Wheeler and Curry et al.

Wheeler is directed to a stable dispersion comprising an oil based biliquid foam and an aqueous gel which is suitable for use in cosmetics, pharmaceuticals and other industries. It is taught that biliquid foams are insufficiently stable to form useable cosmetic or pharmaceutical products because the foam breast at the air-water interface deposits a layer of oil on the surface which is unacceptable to the user (column 2, lines 15-24). The oil based biliquid foam will generally comprise between 1 and 80% by weight of the total formulation and the aqueous gel will comprise between 20 and 99% by weight of the total formulation. Oils used in the foams include cyclomethicone, dimethicone, dimethiconol, dimethicone copolyol, an emollient ester, mineral oil, natural oil, etc. (column 2, lines 34-55). The aqueous phase will generally comprise a colloidal polymer or gum suspended in water at a concentration of 0.05 to 20% (column 2, lines 58-67). Exemplified thickeners include Carbopol (example 1 and 3). The aqueous phase may also contain water-soluble or water dispersible material such as alcohol, glycol, glycerin, extracts, a condition agent, humectant, etc. (column 3, lines 7-13). The formulation may also contain antimicrobial agents, opacifying or pearlising agents, antioxidant, sequesterant, colorant, flavor agent, perfume, or any other such product generally known for use cosmetics or pharmaceutical industry (column 3, lines 39-58). The compositions are suitable for hair or skin cleansing formulations and contain conditioning agent, emollients etc. (column 4, lines 23-32).

Curry et al. is directed to hairdressings. It is taught that the well-known carboxyvinyl polymeric thickening agents known under the trade name Carbopol can be used to form hairdressing products in the form of alcoholic gels. Suitable range for the amounts of alcohol range from 10 to 70%. In these types of preparations it is required that both the resin and luster aid are completely dissolved in the alcoholic or aqueous alcoholic solvent. Therefore it is necessary to choose the appropriate levels of luster aid, resin, alcohol and water within the limits indicated so that both the resin and luster aid are in a completely dissolved state (column 3, lines 3-22).

***Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Guffogg et al., Wheeler and Curry et al. and utilize the biliquid foam of Guffogg et al. in combination with an aqueous-alcoholic gel in order to form a composition useable as a cosmetic or pharmaceutical product. One of ordinary skill in the art would have been motivated to add the biliquid form of Guffogg et al. to an aqueous gel in order to form a more stable cosmetic or pharmaceutical product as taught by Wheeler.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Guffogg et al., Wheeler and Curry et al. and utilize alcohol in the aqueous gel in order to help solubilize cosmetic agents. One of ordinary skill in the art would have been motivated to add alcohol in order to help solubilize cosmetic agents as Curry et al. teach that hair compositions utilize alcoholic

gels in order to help solubilize cosmetic agents and manipulation of the amount is utilized in order to ensure completely solubility.

Regarding the claimed amount of biliquid foam and aqueous gel in the stable dispersion, Wheeler teaches an amount that overlaps that instantly claimed. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. **See MPEP 2144.05 [R-5].**

Regarding the claimed amount of alcohol, it would have been obvious to one of ordinary skill in the art to manipulate the amount of alcohol depending on the components that are present which need to be solubilized as taught by Wheeler. The amount of a alcohol in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. Optimization of parameters is a routine practice that would be obvious for a person of ordinary skill in the art to employ and reasonably would expect success. It would have been customary for an artisan of ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired solubility. It would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable ranges that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the

instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claims 26-27 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sebba in view of Flick and in further view of Wheeler and Curry et al.

Applicant Claims

The instant application claims a stable dispersion having a contact of C1-C4 alcohol, a liquid polyethylene glycol, ethylene glycol or propylene glycol, or mixtures thereof, of at least 65% by weight, which dispersion comprises from 1 to 80% by weight of a biliquid foam as indicated above, and from 99 to 20% by weight of an aqueous gel.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Sebba and Flick are set forth above. Specifically, Sebba teach biliquid foam compositions. The hydrogen bonded liquid is usually water but any liquid which contains hydrogen bonding is suitable such as alcohols and glycols. Mixtures of such liquids can be also used, for example, a mixture of about 96% by volume alcohol and about 4% by volume water. The non polar liquid is generally used in a total amount of about 60 to about 98% by volume, With the hydrogen bonded liquid constituting the balance. Examples of suitable non-polar liquids are animal and vegetable oils, petroleum derivatives, paraffins and liquid halogenated hydrocarbons. When a

surfactant is required in the non-polar liquid to render the latter spreadable, it will generally be utilized in amount of about 0.1 to about 5% by weight, preferably about 1% by weight of the non-polar liquid. Examples of these suitable surfactants include non-ionic liquid surfactants such as oil soluble polyethylene glycol ethers and fatty acids. Flick is directed to emulsifiers. It is taught that the surfactol series of nonionic emulsifiers are ethoxylated castor oils with varying amounts of ethylene oxide added to the hydroxy bearing fatty acid chain. They vary from self-emulsifiable to completely water soluble. They offer many benefits such as low odor, excellent stability over broad pH range and lubricity. Examples include Peg-40 Castor Oil, with 40 ethylene oxide units.

**Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)**

While Sebba teach that the non-polar oils can be a variety of different liquids, Sebba do not teach that the non-polar oil is a siloxane or emollient ester. Sebba does not teach adding the biliquid foam to an aqueous gel. However, these deficiencies are cured by Wheeler and Curry et al.

Wheeler is directed to a stable dispersion comprising an oil based biliquid foam and an aqueous gel which is suitable for use in cosmetics, pharmaceuticals and other industries. It is taught that biliquid foams are insufficiently stable to form useable cosmetic or pharmaceutical products because the foam breast at the air-water interface deposits a layer of oil on the surface which is unacceptable to the user (column 2, lines 15-24). The oil based biliquid foam will generally comprise between 1 and 80% by weight of the total formulation and the aqueous gel will comprise between 20 and 99%

by weight of the total formulation. Oils used in the foams include cyclomethicone, dimethicone, dimethiconol, dimethicone copolyol, an emollient ester, mineral oil, natural oil, etc. (column 2, lines 34-55). The aqueous phase will generally comprise a colloidal polymer or gum suspended in water at a concentration of 0.05 to 20% (column 2, lines 58-67). Exemplified thickeners include Carbopol (example 1 and 3). The aqueous phase may also contain water-soluble or water dispersible material such as alcohol, glycol, glycerin, extracts, a condition agent, humectant, etc. (column 3, lines 7-13). The formulation may also contain antimicrobial agents, opacifying or pearling agents, antioxidant, sequesterant, colorant, flavor agent, perfume, or any other such product generally known for use cosmetics or pharmaceutical industry (column 3, lines 39-58). The compositions are suitable for hair or skin cleansing formulations and contain conditioning agent, emollients etc. (column 4, lines 23-32).

Curry et al. is directed to hairdressings. It is taught that the well-known carboxyvinyl polymeric thickening agents known under the trade name Carbopol can be used to form hairdressing products in the form of alcoholic gels. Suitable range for the amounts of alcohol range from 10 to 70%. In these types of preparations it is required that both the resin and luster aid are completely dissolved in the alcoholic or aqueous alcoholic solvent. Therefore it is necessary to choose the appropriate levels of luster aid, resin, alcohol and water within the limits indicated so that both the resin and luster aid are in a completely dissolved state (column 3, lines 3-22).

***Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Sebba, Flick, Wheeler and Curry et al. and utilize oils such as dimethicone and emollient esters as the non-polar phase of the biliquid foam. One of ordinary skill in the art would have been motivated to utilize oils as both Sebba and Wheeler are directed to biliquid foams and Wheeler teaches that these oils are known to be suitable for use in biliquid foams. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the oils of Sebba with those of Wheeler as they are taught as functional equivalents by Wheeler.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Sebba, Flick, Wheeler and Curry et al. and utilize the biliquid foam of Sebba in combination with an aqueous-alcoholic gel in order to form a composition useable as a cosmetic or pharmaceutical product. One of ordinary skill in the art would have been motivated to add the biliquid form of Sebba to an aqueous gel in order to form a more stable cosmetic or pharmaceutical product as taught by Wheeler.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Sebba, Flick, Wheeler and Curry et al. and utilize alcohol in the aqueous gel in order to help solubilize cosmetic agents. One of ordinary skill in the art would have been motivated to add alcohol in order to help solubilize cosmetic agents as Curry et al. teach that hair compositions utilize alcoholic gels in order to help solubilize cosmetic agents and manipulation of the amount is utilized in order to ensure completely solubility.

Regarding the claimed amount of biliquid foam and aqueous gel in the stable dispersion, Wheeler teaches an amount that overlaps that instantly claimed. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. **See MPEP 2144.05 [R-5].**

Regarding the claimed amount of alcohol, it would have been obvious to one of ordinary skill in the art to manipulate the amount of alcohol depending on the components that are present which need to be solubilized as taught by Wheeler. The amount of a alcohol in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. Optimization of parameters is a routine practice that would be obvious for a person of ordinary skill in the art to employ and reasonably would expect success. It would have been customary for an artisan of ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired solubility. It would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable ranges that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper time wise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21-37 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6165479 (cited on PTO Form 1449) in view of Flick and Curry et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims overlap in scope.

The instant application claims a biliquid foam comprising from 10% to 98% by weight of a non polar liquid other than a fuel and from 2 to 88% by weight of a continuous phase polar liquid comprising a C1-C4 alcohol, a liquid polyethylene glycol, ethylene glycol or propylene glycol, or mixtures thereof, in an amount of at least 65% by

weight, relative to the weight of the continuous phase, wherein the biliquid foam is stabilized with an amount of from 0.05% to 2% by weight based on the total formulation of a surfactant which is selected from castor oil/poly (alkylene glycol) adducts containing from 20 to 50 alkoxy groups, a C8-C24 fatty acid or hydrogenated castor oil/poly(alkylene glycol) adducts containing from 20 to 60 alkoxy groups, or mixtures thereof. The instant application claims a stable dispersion having a content of C1-C4 alcohol, a liquid polyethylene glycol, ethylene glycol or propylene glycol, or mixtures thereof, of at least 65% by weight, which dispersion comprises from 1 to 80% by weight of a biliquid foam as indicated above, and from 99 to 20% by weight of an aqueous gel.

Patent '479 claims a stable dispersion comprising an oil-based biliquid foam and aqueous gel wherein the oil-based biliquid foam constitutes from 1 to 80% by weight of the dispersion, the aqueous gel constitutes from 20 to 99% by weight of the dispersion and said dispersion also includes a surfactant.

The difference between the instant application and Patent '479 is that Patent '479 generally claims a surfactant and does not claim a specific surfactant. Another difference is that Patent '479 does not claim the presence of an alcohol. However, these differences are cured by Flick and Curry et al.

Flick is directed to emulsifiers. It is taught that the surfactol series of nonionic emulsifiers are ethoxylated castor oils with varying amounts of ethylene oxide added to the hydroxy bearing fatty acid chain. They vary from self-emulsifiable to completely water soluble. They offer many benefits such as low odor, excellent stability over broad

pH range and lubricity. Examples include Peg-40 Castor Oil, with 40 ethylene oxide units (page 61).

Curry et al. is directed to hairdressings. It is taught that the well-known carboxyvinyl polymeric thickening agents known under the trade name Carbopol can be used to form hairdressing products in the form of alcoholic gels. Suitable range for the amounts of alcohol range from 10 to 70%. In these types of preparations it is required that both the resin and luster aid are completely dissolved in the alcoholic or aqueous alcoholic solvent. Therefore it is necessary to choose the appropriate levels of luster aid, resin, alcohol and water within the limits indicated so that both the resin and luster aid are in a completely dissolved state (column 3, lines 3-22).

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Patent '479, Curry et al. and Flick and utilize ethoxylated castor oils as the surfactant. One of ordinary skill in the art would have been motivated to utilize these surfactants as Patent '479 teach that the surfactant can be added and Flick teach that ethoxylated castor oils are non-ionic surfactants with many benefits. Therefore, one of ordinary skill in the art would have been motivated to utilize the surfactol surfactants for the added benefit of excellent stability and lubricity as taught by Flick.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Patent '479, Flick and Curry et al. and utilize alcohol in the aqueous gel in order to help solubilize cosmetic agents. One of ordinary skill in the art would have been motivated to add alcohol in order to help

solubilize cosmetic agents as Curry et al. teach that hair compositions utilize alcoholic gels in order to help solubilize cosmetic agents and manipulation of the amount is utilized in order to ensure completely solubility.

Therefore, the scopes of the patent claims and the instant application overlap and thus they are obvious variants of one another.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIGAIL FISHER whose telephone number is (571)270-3502. The examiner can normally be reached on M-Th 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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